What is claimed is:

1. A block based video coding method, wherein predictive coefficients are selected depending on the difference between quantized DC gradients (coefficients) of a plurality of neighboring blocks (B1, B2 and B3) of a block (B) to be coded.

2. The block based video coding method according to claim 1, wherein the DC coefficient of the block (B) is selected by the difference between the coded DC gradients of at least two neighboring blocks of the block (B) to be coded.

3. The block based video coding method according to claim 1, wherein in the case when the neighboring blocks B1, B2 and

B3 of the block (B) to be coded are all intrablocks, the absolute value (*DC_B1 & DC_B2*) of the result of subtracting the quantized DC coefficient DC_B2 of the block B2 from the quantized DC coefficient DC_B1 of the block B1, is compared with that (*DC_B1 & DC_B3*) of the result of subtracting the quantized DC coefficient DC_B3 of the block B3 from the quantized DC coefficient DC_B1 of the block B1, and DC predictive coding is performed by selecting a predictive value DC_P for predictively coding the DC_B of the block B as the quantized DC coefficient DC_B3 of the block B3 if *DC_B1 & DC_B2* < *DC_B1 & DC_B3*.

4. The predictive video coding method according to claim 1, wherein in the case when the neighboring blocks B1, B2 and B3 of the block B to be coded are all intrablocks, the absolute value (*DC_B1 & DC_B2*) of the result of subtracting the quantized DC coefficient DC_B2 of the block B2 from the quantized DC coefficient DC_B1 of the block B1, is compared with that (*DC_B1 & DC_B3*) of the result of subtracting the quantized DC coefficient DC_B3 of the block B3 from the quantized DC coefficient DC_B1 of the block B1, and DC predictive coding is performed by selecting a predictive value DC_P for predictively coding the DC_B of the block B as the quantized DC coefficient DC_B2 of the block B2 if *DC_B1 & DC_B2* > *DC_B1 & DC_B3*.

5. The predictive video coding method according to claim 1, wherein if shape information is not present in the neighboring blocks B2 and B3 of the block B, the predictive value DC_P for predictively coding the DC_B of the block B is set as 128 to perform DC predictive coding.

6. The predictive video coding method according to claim 1, wherein if shape information is present only in the block B3 from the neighboring blocks B2 and B3 of the block B, the predictive value DC_P for predictively coding the DC_B of the block B is selected as the quantized DC coefficient DC_B3 of the block B3 to perform DC predictive coding.

7. The predictive video coding method according to claim 1, wherein if shape information is present only in the block B2 from the neighboring blocks B2 and B3 of the block B, the predictive value DC_P for predictively coding the DC_B of the block B is selected as the quantized DC coefficient DC_B2 of the block B2 to perform DC predictive coding.

8. The predictive video coding method according to claim 1, wherein if shape information is present in the neighboring blocks B2 and B3 of the block B but is not present in the block B1, the predictive value DC_P for predictively coding the DC_B of the block B is selected as the quantized DC coefficient DC_B3 of the block B3 to perform DC predictive coding.

9. The predictive video coding method according to claim 1, wherein if shape information is present in the neighboring blocks B2 and B3 of the block B but is not present in the block B1, the predictive value DC_P for predictively coding the DC_B of the block B is selected as the quantized DC coefficient DC_B2 of the block B2 to perform DC predictive coding.

10. The predictive video coding method according to claim 1, wherein if shape information is not present in the neighboring blocks B2 and B3 of the block B but

is present only in the block B1, the predictive value DC_P for predictively coding the DC_B of the block B is selected as the quantized DC coefficient DC_B1 of the block B1 to perform DC predictive coding.

11. The predictive video coding method according to claim 1, wherein if shape information is present in the neighboring blocks B2 and B3 of the block B but is not present in the block B1, the predictive value DC_B for predictively coding the block B is set as 128, the absolute value (*128 & DC_B2*) of the result of subtracting the quantized DC coefficient DC_B2 of the block B2 from the predictive value DC_B1 for predictively coding the block B1 (128), is compared with that (*128 & DC_B3*) of the result of subtracting the quantized DC coefficient DC_B3 of the block B3 from the predictive value for predictively coding the block B1 (128), and DC predictive coding is performed by selecting a predictive value DC_P for predictively coding the DC_B of the block B as the quantized DC coefficient DC_B3 of the block B3 if *128 & DC_B2* < *128 & DC_B3*.

12. The predictive video coding method according to claim 1, wherein if shape information is present in the neighboring blocks B2 and B3 of the block B but is not present in the block B1, the predictive value DC_P for predictively coding the DC_B of the block B is set as 128, the absolute value (*128 & DC_B2*) of the result of subtracting the quantized DC coefficient DC_B2 of the block B2 from the predictive

value DC_B1 for predictively coding the block B1 (128), is compared with that (*128 & DC_B3*) of the result of subtracting the quantized DC coefficient DC_B3 of the block B3 from the predictive value DC_B1 for predictively coding the block B1 (128), and DC predictive coding is performed by selecting a predictive value DC_P for predictively coding the DC_B of the block B as the quantized DC coefficient DC_B2 of the block B2 if *128 & DC_B2* > *128 & DC_B3*.

13. The predictive video coding method according to claim 1, wherein if shape information is not present in the neighboring blocks B2 and B3 of the block B but is present only in the block B1, the predictive value DC_P for predictively coding the DC_B of the block B is set as the DC coefficient obtained by adding 128 to the quantized DC coefficient DC_B1 of the block B1, that is, DC_B1 + 128, and dividing the adding result by 2, that is, (DC_B1 + 128)/2, and then rounding off or cutting the fractions to the decimal places, to then perform DC predictive coding.

14. The predictive video coding method according to claim 1, wherein if shape information is present only in the block B3, the predictive value DC_P for predictively coding the DC_B of the block B is set as the DC coefficient obtained by adding 128 to the quantized DC coefficient DC_B3 of the block B3, that is, DC_B3 + 128, and dividing the adding result by 2, that is, (DC_B3 + 128)/2, and then rounding off or cutting the fractions to the decimal places, to then perform DC predictive coding.

15. The predictive video coding method according to claim 1, wherein if shape information is present only in the block B2, the predictive value DC_P for predictively coding the DC_B of the block B is set as the DC coefficient obtained by adding 128 to the quantized DC coefficient DC_B2 of the block B2, that is, DC_B2 + 128, and dividing the adding result by 2, that is, (DC_B2 + 128)/2, and then rounding off or cutting the fractions to the decimal places, to then perform DC predictive coding.

16. The predictive video coding method according to claim 1, wherein if shape information is present in the neighboring blocks B2 and B3 of the block B but is not present in the block B1, the predictive value DC_P for predictively coding the DC_B of the block B is set as the DC coefficient obtained by adding the quantized DC coefficient DC_B3 of the block B3 to the quantized DC coefficient DC_B2 of the block B2, that is, DC_B2 + DC_B3, and dividing the adding result by 2, that is, (DC_B2 + DC_B3)/2, and then rounding off or cutting the fractions to the decimal places, to then perform DC predictive coding.

17. The predictive video coding method according to claim 1, wherein if the quantization step sizes of the block B and its neighboring blocks B1, B2 and B3 are different from one another, DC predictive coding is performed by calculating the predictive value DC_P for predictively coding the DC_B of the block B after normalizing

the DC coefficients of the four blocks B, B1, B2 and B3 with each quantization step size of the corresponding block.

18. The predictive video coding method according to claim 1, wherein if the quantization step sizes (Q_step) of the block to be coded and the blocks selected by being predictively coded are different from one another, scaling is performed such that DC_P = (DC_P H DCP's block Q_step)/(DC_B's Q_step) and DC_T = (DC_P & DC_B), and the scaled value is DPCM-performed to then be transmitted.

19. The predictive video coding method according to claim 17, wherein the normalization is performed such that N_DC_B = DC_B H Q_B, N_DC_B1 = DC_B1 H Q_B1, N_DC_B2 = DC_B2 H Q_B2 and N_DC_B3 = DC_B3 H Q_B3, where the quantization step size of the block B is Q_B, the quantization step size of the block B1 is Q_B1, the quantization step size of the block B2 is Q_B2, the quantization step size of the block B3 is Q_B3, and the normalized DC values of the blocks B, B1, B2 and B3 are N_DC_B, N_DC_B1, N_DC_B2 and N_DC_B3, respectively.

20. The predictive video coding method according to claim 17, wherein if DC_P equals to N_DC_B1, the DC predictor (DC_T) for the current block B to be transmitted to the decoder, equals to N_DC_B1/Q_B & DC_B.

21. The predictive video coding method according to claim 17, wherein if DC_P equals to N_DC_B2, the DC_T equals to N_DC_B2/Q_B & DC_B.

22. The predictive video coding method according to claim 17, wherein if DC_P equals to N_DC_B3, the DC_T equals to N_DC_B3/Q_B & DC_B.

23. The predictive video coding method according to claim 1, wherein if the quantization step sizes (Q_step) of the block to be coded and the blocks selected by being predictively coded are different from one another, a predictive block and a predictive coefficient are first selected according to gradients, and then the selected predictive coefficient is normalized such that DC_P = (DC_P H DC_PQ)/QB where DC_PQ corresponds to Q_B2 if DC_P equals to DC_B2, and corresponds to Q_B3 if DC_P equals to DC_B3.

24. A block based video coding apparatus comprising:

an object boundary block padding portion for receiving a video signal and original shape information, filling non-object parts with a mean value of object parts to then low-frequency filter the same and setting as zero;

a DCT portion for receiving the video signal output from said object boundary block padding portion to perform a DCT, quantizing the transform coefficient and outputting the same;

a transform coefficient and video information coder for predictively coding DC coefficients using a spatial correlativity (gradient) between the quantized transform coefficient of an arbitrary block output from said DCT portion, and the coded DC values of a plurality of neighboring blocks of the arbitrary block;

an IDCT portion for receiving the quantized transform coefficient from said DCT portion and inversely quantizing the same, filtering the transform coefficient and performing an IDCT; and

a padded data eliminating portion for receiving the video signal output from said IDCT portion and reconstructed shape information, eliminating the padded data, and outputting the decoded VOP data.

25. The block based video coding apparatus according to claim 24, wherein said transform coefficient and video information coder comprises:

a DC coefficient storage portion for storing the DC coefficient obtained from said DCT portion;

a predictive block selector for selecting a predictive block by the indices of three neighboring blocks of the current block, obtained from said DC coefficient storage portion; and

a DPCM coder for DPCM-coding the predictive value obtained from said predictive block selector and the quantized DC coefficient of the current block, obtained from said DCT portion.

26. The block based video coding apparatus according to claim 25, wherein said predictive block selector comprises:

a memory for storing indices for three neighboring blocks of the current block, obtained from said DC coefficient storage portion;

first and second subtractors for selectively taking two among indices for the three blocks and mutually subtracting the same;

first and second absolute value calculators for calculating absolute values output from said first and second subtractors; and

a comparator for comparing the respective absolute values obtained from said first and second absolute value calculators and generating a selection control signal for selecting a predictive block according to the comparison result.

27. The predictive video coding method according to claim 19, wherein if DC_P equals to N_DC_B1, the DC predictor (DC_T) for the current block B to be transmitted to the decoder, equals to N_DC_B1/Q_B & DC_B.

28. The predictive video coding method according to claim 19, wherein if DC_P equals to N_DC_B2, the DC_T equals to N_DC_B2/Q_B & DC_B.

29. The predictive video coding method according to claim 19, wherein if DC_P equals to N_DC_B3, the DC_T equals to N_DC_B3/Q_B & DC_B.